

Application No. : 10/693,071
File date : October 24, 2003
Response

Amendments to the Specification

Please amend the paragraph starting at line 11 on page 11 as follows:

Referring now to FIGS. 14 and 15, another form of transilluminator of the invention is there shown for controllably irradiating with ultraviolet radiation for use in controllably irradiating an object with ultraviolet radiation. This form of the invention, which separates the UV producing components from the sample to be exposed, is similar in many respects to that shown in FIGS. 10 through 13 and like numerals are used in FIGS. 14 and 15 to identify like components. This alternate form of the invention comprises a housing 64 having interconnected top, bottom and sidewalls 66, 68, and 70 respectively that define an internal chamber 72. Carried by top wall 66 is a UV transmitting, light blocking element 74 here provided in the form of a borosilicate glass. Element 76 74 includes a generally planar upper surface 74a that is adapted to carry an article, such as a specimen that is to be irradiated.

Please amend the paragraph starting at line 1 on page 19 as follows:

Turning next to FIGS. 20 and 21, still another form of transilluminator of the invention for controllably irradiating an object with ultraviolet radiation is there

Amendments to the Specification continued

shown. This form of the invention, which enables the user to change UV wavelengths without having to use a multiplicity of UV lamps emitting radiation of differing wavelengths, is also similar in some respects to that shown in FIGS. 10 through 13 and like numerals are used in FIGS. 20 and 21 to identify like components. This alternate form of the invention comprises a housing 116 having a top portion 116a and a bottom portion 116b. Top portion 116a, which is slidably receivable over bottom portion 116b includes interconnected top, front, back, bottom and sidewalls 118, 120, 122, 124 and 126 respectively. Bottom portion 116b includes top, bottom and sidewalls 128, 130 and 132 respectively. Carried by top wall 118 is a UV transmitting, light blocking element 134 here provided in the form of a borosilicate glass. Superimposed ~~of~~ on element 134 is an ultraviolet transmitting filter 136 that only transmits a bandwidth of 365 nm ultraviolet radiation while blocking ambient white light transmission. Filter 136 includes a generally planar top surface 136a that is adapted to support an article, such as the specimen that is to be irradiated.

Please amend the paragraph starting at line 6 on page 20 as follows:

As in the earlier described embodiments of the invention, and as illustrated in the drawings, the UV sources here ~~comprises~~ comprise a plurality of spaced-

Amendments to the Specification continued

apart, ultraviolet-light-emitting lamps 24a that emit UV radiation at a first wavelength of, for example, 254 nanometers.

Please amend the paragraph starting at line 17 on page 20 as follows:

With the construction shown in FIGS. 20 and 21, the upper portion 116a of the housing can be readily separated from the lower portion 116b so as to expose the upper surface 142a of filter 142. With the upper portion 116a of the housing removed, the specimen to be irradiated can be placed directly on the upper surface 142a of the filter.

Please amend the paragraph starting at line 15 on page 21 as follows:

As in the previously described embodiments, the UV sources here comprises comprise a plurality of spaced-apart, ultraviolet-light-emitting lamps 24a that emit UV radiation at a first wavelength of, for example, 254 nanometers.

Please amend the paragraph starting at line 18 on page 21 as follows:

Positioned between the array of lamps 24a and element 74 is a removably mounted filter 160. Mounted between filter 160 and lamps 24a is a borosilicate glass plate 162 and a conversion means for converting ultraviolet radiation at a first

Amendments to the Specification continued

wavelength to ultraviolet radiation at a second wavelength. This conversion means here uniquely comprises a novel phosphor coated mesh assembly 164 which is of general character illustrated in FIGS. 24 and 25. As best seen and in FIG. 24, mesh assembly 164 includes supporting means here provided as a supporting frame 166 that functions to support a mesh substrate 168 in a stretched, generally planar configuration. Mesh substrate 168 comprises a multiplicity of spaced apart, interconnected elements 169, each of which is at least partially coated with a phosphor so as to create a large area, uniform lighting background. Mesh substrate 168 can be formed from metal, plastic, glass, quartz and like materials. The mesh substrate can be coated with various wave shift phosphors 170, such as phosphors that will convert 254 nm ultraviolet radiation to 312 nm ultraviolet radiation; will convert 254 nm ultraviolet radiation to 365 nm ultraviolet radiation; will convert 354 nm ultraviolet radiation to 302 nm/365 nm radiation (broadband mix); and will ~~converts~~ convert 254 nm ultraviolet radiation to a UV, white light combination. Wave-shift phosphors 170 can also comprise a mixture of visible conversion spectra phosphors and ultraviolet phosphors.